

WHAT IS CLAIMED IS:

1. A method of detecting the presence of an oncogenic HPV E6 protein in a sample, said method comprising:
 - 5 contacting a sample suspected of containing an oncogenic HPV E6 protein with a PDZ domain polypeptide; and
 - detecting any binding of said oncogenic HPV E6 protein in said sample to said PDZ domain polypeptide;
 - 10 wherein binding of said oncogenic HPV E6 protein to said PDZ domain polypeptide indicates the presence of an oncogenic HPV E6 protein in said sample.
 2. The method of claim 1, wherein said PDZ domain polypeptide comprises the amino acids sequence of Magi-I PDZ domain 2.
 - 15 3. The method of claim 1, wherein said PDZ domain peptide binds to HPV E6 protein encoded by HPV strains 16, 18 and 45.
 4. The method of claim 1, wherein sample is contacted with multiple PDZ domain polypeptides.
 - 20 5. The method of claim 1, wherein said PDZ protein is a fusion protein.
 6. A system for detecting the presence of an oncogenic HPV E6 polypeptide in a sample, said method comprising:
 - 25 a first and a second binding partner for an oncogenic HPV E6 polypeptide, wherein said first binding partner is a PDZ domain protein and at least one of said binding partners is attached to a solid support.
 7. The system of claim 6, wherein said second binding partner is an antibody against 30 said oncogenic HPV E6 polypeptide.
 8. The system of claim 7, wherein at least one of said binding partners is labeled.

9. The method of claim 6, wherein said PDZ domain protein comprises the amino acid sequence of Magi-I PDZ domain 2.

10. A method for determining if a subject is infected with an oncogenic strain of HPV,
5 said method comprising:
detecting the presence of oncogenic HPV E6 protein in a sample from said subject using an oncogenic HPV E6 protein-binding PDZ protein,
wherein the presence of oncogenic HPV E6 protein indicates that the subject is infected with an oncogenic strain of HPV.

10

11. The method of claim 10, wherein said detecting step further comprises detecting the presence of said oncogenic HPV E6 protein using an antibody that specifically binds to said oncogenic HPV E6 protein.

15 12. The method of claim 10, wherein said sample is a cervical scrape, biopsy, or lavage.

13. The method of claim 12, wherein said method is an ELISA or a sandwich assay.

14. The method of claim 10, wherein said sample is prepared in the presence of a
20 proteasome inhibitor.

15. The method of claim 10, wherein said method is performed as part of a test for cervical cancer.

25 16. A kit for testing for the presence of oncogenic HPV E6 protein, the kit comprising first and second binding partners for said oncogenic HPV E6 protein, wherein said first binding partner is a PDZ domain protein.

17. The kit of claim 16, wherein at least one of the binding partners is attached to a solid
30 support.

18. The kit of claim 16, wherein said solid support is a test strip.

19. The kit of claim 16, wherein said second binding partner is an antibody.
20. The kit of claim 16, further comprising instructions for detecting the presence of an oncogenic HPV E6 protein in a sample.

5